

PART TWO: MASTER PLAN

Goal: *Provide Master Plan options showing how a target square footage of 850,000 gross square feet may fit on the site. The master plan should show how primary roads, lots, and green spaces are arranged to best fit the site and incorporate the existing historic buildings and the conservation development vision.*

The Milwaukee County Grounds Economic Development Zone has the potential to be a regional development, drawing from a much larger population than just the local City of Wauwatosa. However, it must fit into the vision the City of Wauwatosa has for its long term growth and vitality. Therefore a number of **general design considerations and guidelines** were utilized in the overall master plan concepts:

- Provide appropriate building densities and land uses. For example, the highest density should occur near Watertown Plank Road, both for access and to preserve other areas of the site in the middle and to the north which have the highest potential for green space.
- Provide mixed-use development to encourage and support parking sharing (differing uses at different times of the day) and to support vitality on the site.
- Support the physical definition of streets and public spaces as places of shared use by appropriate architecture that engages the streets and spaces and landscape design. Create comfortable and interesting pedestrian environments to support public outdoor activity at streets and also the designated green space areas.
- Shape streets to respond to topography and facilitate natural drainage.
- Balance the needs for automobiles and respect pedestrians and public spaces.
- Incorporate pedestrian and bicycle linkages from the parkland constituting the rest of the site.

The range of potential use is quite varied, and may include office, retail, hotel, residential, restaurants, and an upscale food store. Some development concepts include structured parking, helping to reduce the amount of impervious area. Because parking structures may be more suitable to some uses and not others, a layout was also achieved showing the implications of mostly surface with some lower level building parking.

MASTER SITE PLAN CONCEPT

Center Road

This concept creates a larger square at the entrance from Watertown Plank Road, preserving areas of larger trees, and orients development on both sides of a main road running north/south. The placement of this road preserves vistas to the historic Eschweiler buildings at the north end of the site. Private roads or drives access buildings at the perimeter of the site.

CONCEPTUAL STRATEGIES:

- Reduce pavement by providing a central transportation corridor.
- Promote higher density, compact mixed-use developments that maximize land-use efficiency within the urban land reserve.
- Provide centralized infrastructure.
- Provide a maximum of shared stormwater management opportunities.
- Reduce noise and visual pollution on the site through the placement of buildings along Highway 45.
- Preserve views and green spaces around the perimeter and interior of the site. The placement of green spaces retains formal and informal landscaped areas in front of the existing historic buildings. The goal is for these strong architectural pieces to retain prominence on the development.
- Provide a naturalized buffer along the north end of the site at Swan Blvd.
- Reduce impervious surfaces by encouraging structured parking to decrease the built environment.
- Incorporate pedestrian and bicycle linkages.
- Incorporate bioswales in street and parking medians.



FIRST PRINCIPLES

First Principles for site design and development of the EDZ of the Milwaukee County Grounds. These First Principles are imperative to the success of the project and accomplishment of the ecological design goals that have been outlined by the project team. These principles should guide all thinking and design solutions for the EDZ of the Milwaukee County Grounds.

- **There shall be no direct surface run-off or discharge from paved surfaces into ponds, wetlands, or other aquatic or native landscapes.**

It is critical to the health of the naturalized detention ponds and the long-term viability of native vegetation at the edges to be free from the impact of surface water runoff, especially from road surfaces, where oils, greases, sediment, and other contaminants are added to water. Stormwater can drain directly into a pond if said pond is a designed/designated best management practices (BMPs). Cleansing of run-off occurs through the soil and vegetation prior to reaching ponds or wetlands.

- **Avoid or minimize the use of de-icing agents that negatively impact water quality and the health of landscape systems.**

The use of road salts in the winter is one of the more detrimental chemicals to the environment. Either use a combination of sand and biodegradable ice melting applications, or reduce the need for de-icing altogether. Road paving that is permeable will not hold snow-melt and casual water in a melt-thaw cycle, thus, reducing ice build-up and the need for road salt.

- **Wherever existing amenity trees are desired to be retained, avoid compaction, excavation, filling, or other disturbance to the root zone of the tree, particularly within the dripline of that tree.**

Trees depend on their root zone for air, water, and nutrients. The degree to which the root zone is compromised is the degree to which that particular tree will suffer, decline, and possibly die. Tree preservation hinges upon the establishment and maintenance of healthy root zones.

- **Plants grow and reproduce in habitats to which they are adapted.**

If plants are expected to grow and reproduce on their own in a landscape setting, they must be provided with the appropriate habitat, one suited to both the seedlings and the adults. The extent to which this effort is abridged is the extent to which the landscape will fail and default to weeds.

- **Plants that are not in a restoration or habitat context must be suited to cultivation and their health maintained in the best horticultural traditions.**

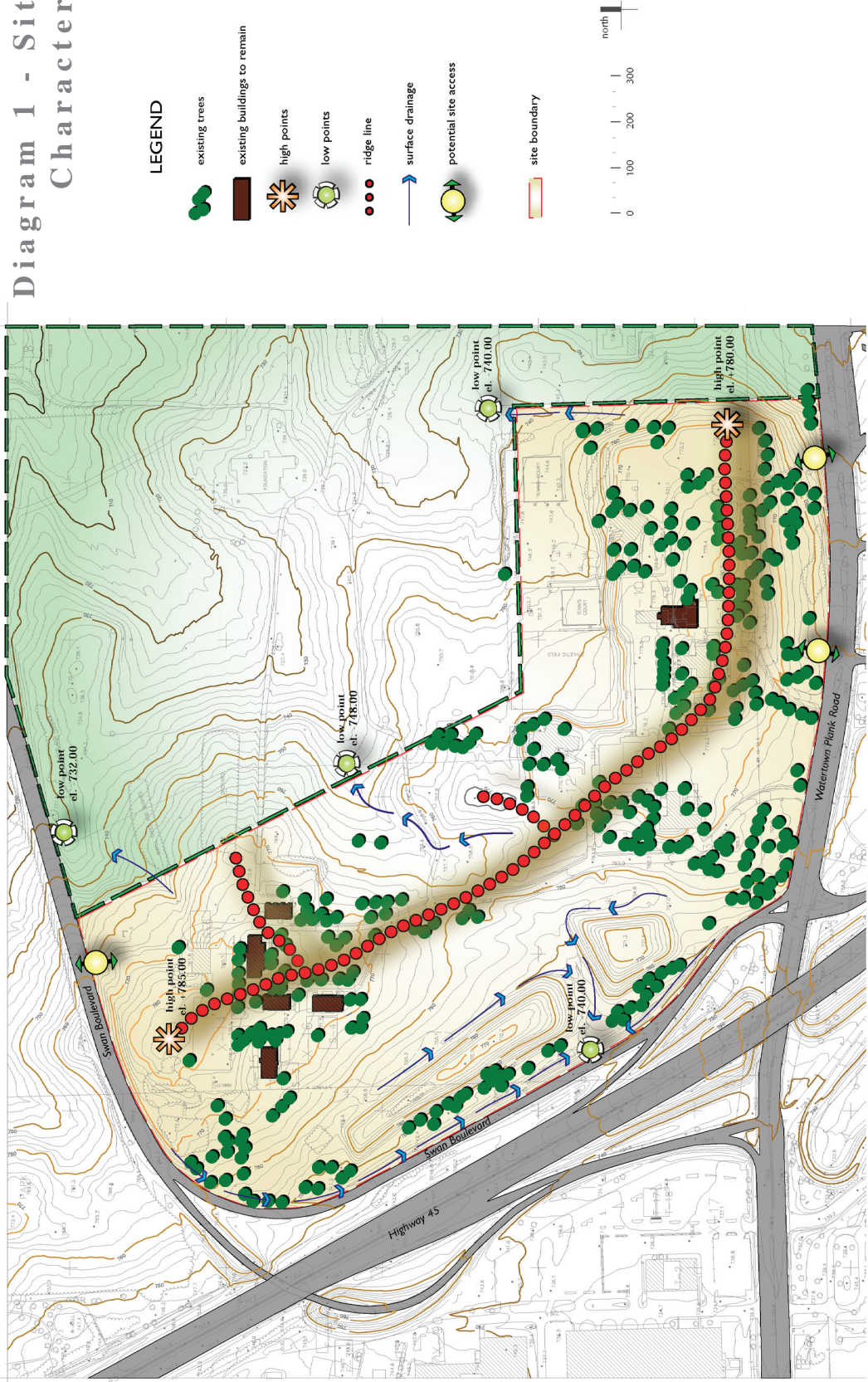
Plants that are planted as perennials or bedding plants must be well chosen for the site and have the benefit of an annual maintenance regime. Too often, "native plants" are prescribed that are ill suited to horticultural or gardening contexts or are expected to perform as horticultural elements without maintenance.

- **Use sustainable materials for all construction whenever possible.**

In order to be as sustainable as possible and the least harmful to the environment, the choices made for paving materials should take the following into consideration: no toxins used to produce the material, no toxins to be leached from the material once in place, long-term life-cycle costs, and maintenance requirements.

MASTER PLAN N

Diagram 1 - Site Characteristics



Client:
City of Milwaukee
06/20/2017
07/15/2017

site analysis

MILWAUKEE COUNTY GROUNDS



CONSERVATION DESIGN FORUM

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SITE CHARACTERISTICS



SITE DESCRIPTION

The EDZ is located within the northeast quadrant of the Milwaukee County Grounds, southwest portion. This portion of the Milwaukee County Grounds currently consists of six extant historic buildings, five of which are grouped together at the north end of the site. The remaining portions of the site largely consist of rolling hills, prairie, and trees. Minimal roadways remain.

SITE LOCATION

The EDZ is located in the City of Wauwatosa, Milwaukee County just to the northeast of the major Interstate interchange of I-94 and Hwy. 45. See Figure SC-1 for site location within the City of Wauwatosa.

SITE BUILDABLE PARCELS

See page 15 for site parcel locations. This diagram assumes multiple parcels will be required to suite separate ownership. However, a single entity may combine all parcels in the EDZ to form one site. In either case, Conservation Zone locations will remain intact. In the parcel configuration depicted on page 15 the main roadway would become a City of Wauwatosa street subject to current Zoning Ordinances.



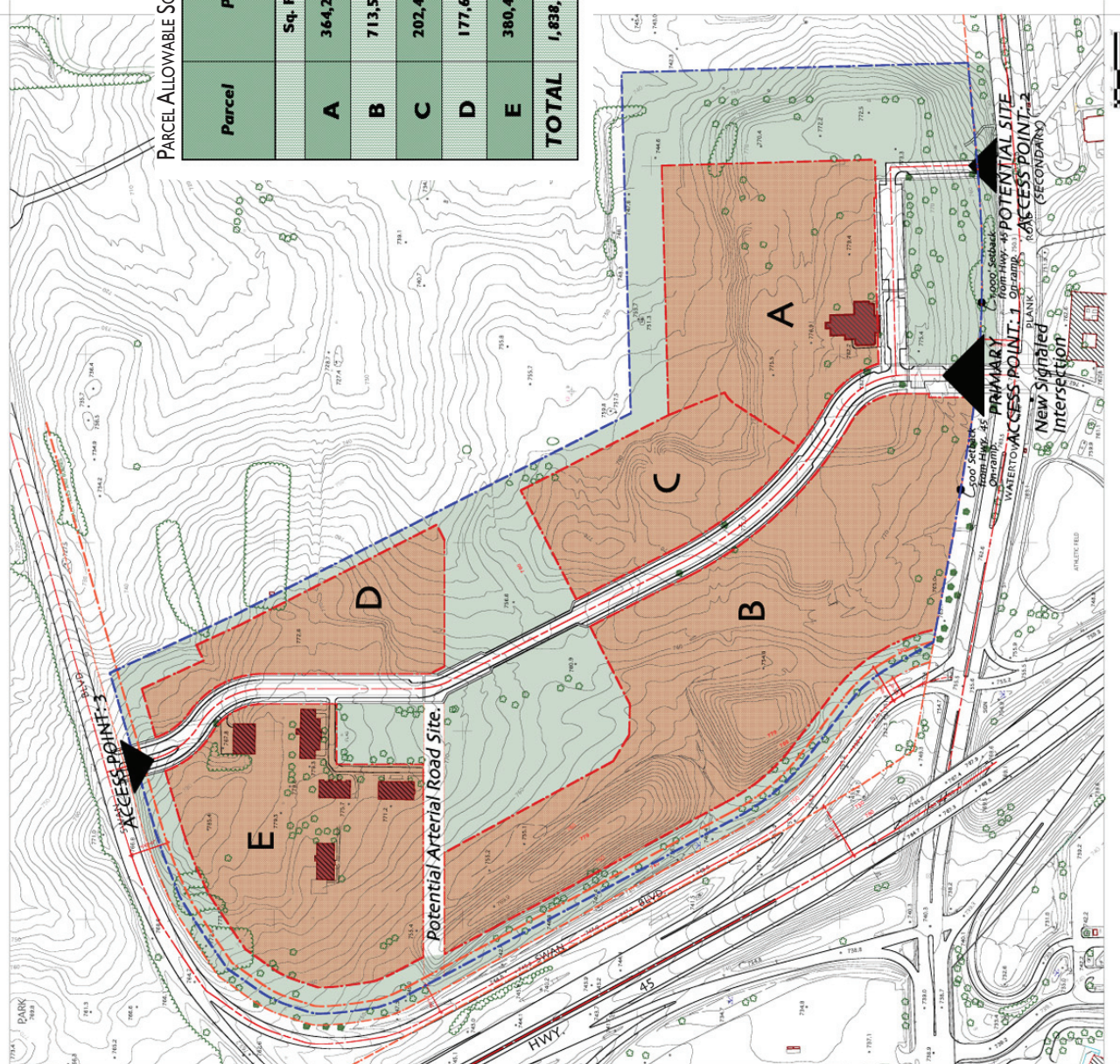
Fig. SC-1: City of Wauwatosa Map. The EDZ site is labeled in green.

SITE SIZE

Developable Parcels:	42.20 Acres
Conservation Zone:	28.71 Acres

MASTER PLAN

Diagram 2 - Building and Conservation Areas



Site Concept - Center Road

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NETWORK CONCEPTS



SITE IMPACT

Development of the EDZ is dramatically impacted by how intensely conservation principles are implemented. The following two diagrams demonstrate two conservation strategies.

Diagram 3a: Conservative Conservation

In this site plan conservation techniques such as parking fields, naturalized detention, and innovative landscape practices are used. Buildings are spread out and parking consumes large portions of the EDZ site, leaving little for conservation, recreational uses, and scenic vistas.

The site concept as demonstrated here uses typically marketable building square footages. This diagram demonstrates the site impact if all parking is surface. A parking ratio of 3.5 spaces per 1,000 Sq. Ft. was used to calculate the amount of spaces necessary. As is evident, a substantial amount of land is needed to support this parking strategy. Parking spreads out over many acres. This results in large distances from actual buildings and user inefficiency.



Diagram 3b: Advanced Conservation

In this site plan conservation techniques such as parking fields, naturalized detention, and innovative landscape practices are used. Buildings are consolidated into close-knit networks, taking advantage of shared opportunities for stormwater management and parking. The main, center road concept implements a wide boulevard with bioswales and trees in the center median.

This diagram demonstrates the site impact of utilizing a combination of surface, basement, and structured parking. There is no decrease in the amount of parking required from the above example. Parking fields, or pervious surface parking, are utilized in secondary parking areas. As demonstrated in Diagram 3b the effect is drastically different from the concepts in 3a. More land is available for conservation and recreation. Vistas are preserved. Most importantly, parking is consolidated very close to, or actually within the building itself, thereby providing a convenience for the end user all year round.





NATURAL FEATURES

Existing natural features should be conserved wherever possible. Innovative stormwater management techniques can be designed as an attractive site amenity and wildlife habitat.

Diagram 4: Naturalized Detention

A variety of depressional areas can be created in the landscape with minimal grading and shaping and are meant to detain stormwater runoff during exceptionally heavy rainstorm events. Stormwater from roofs and paved surfaces should be slowed, filtered with vegetation, and much of it infiltrated into the ground before ever reaching naturalized detention areas. These features should be vegetated with deep-rooted grasses and perennials to encourage infiltration and evapotranspiration of water. With relatively stable hydrology, these areas can be made to be quite attractive, and serve as habitat for a variety of birds and butterflies.

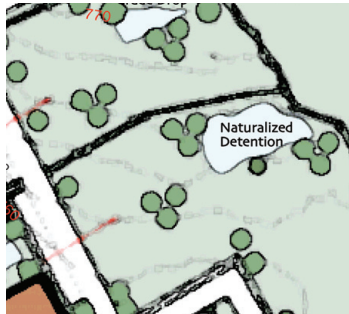
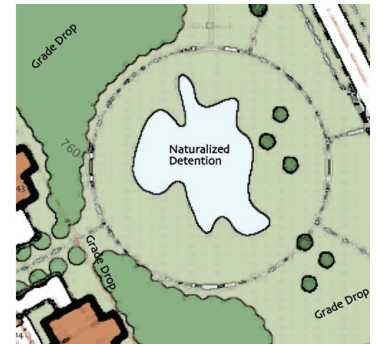


Diagram 5: Park Space

Park space should preserve view corridors, enhance the existing historic buildings, utilize natural landscaping practices, feature native species, and incorporate trails and bike paths for recreational uses. Park spaces and trails should result in an interconnected network. Contiguous green spaces are encouraged. Naturalized detention can create focal points in these areas.



STREET DESIGN

Desirable street design characteristics include pedestrian scale, street trees, sidewalks, and street parking.

Diagram 6: Community Boulevard

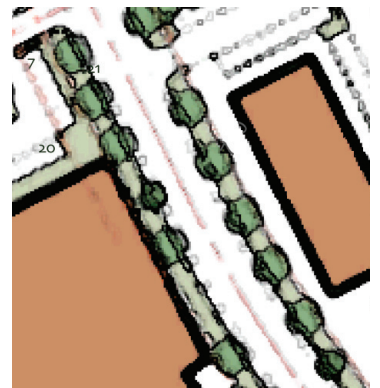
Community boulevards are located in the most intensely developed areas with buildings oriented to the street. These boulevards act as the main thoroughfares and consist of four or fewer multi-modal travel lanes.



Diagram 7: Community Street

Community streets consist of two or four multi-modal travel lanes and are located within commercial or residential corridors.

The community street has great flexibility in cross sectional elements and a range in median conditions. These streets are typically narrower in width than Boulevards and more intimate in scale.





PARKING STRATEGIES

Surface parking, parking fields, street parking, and structured parking should be used in concert to accommodate the needs of the EDZ.

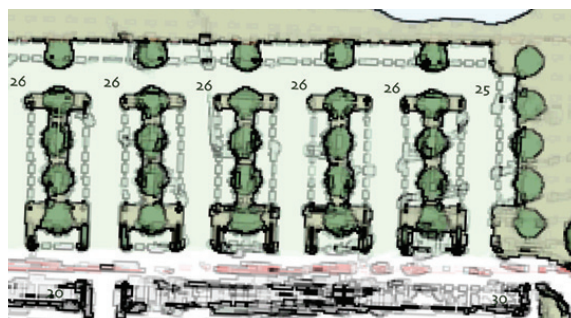
Diagram 8: Street Parking



This readily accessible parking is often key to the success of retail environments. In addition, it reinforces a pedestrian friendly streetscape by reducing the scale of the street environment. Street parking also acts as a traffic calming measure by creating additional activity on the street.

Street parking shall take the form of parallel parking. Medians placed at regular intervals visually break up long strips of parking and provide opportunities for street amenities such as bike racks, benches, street lighting, trash receptacles, and street trees.

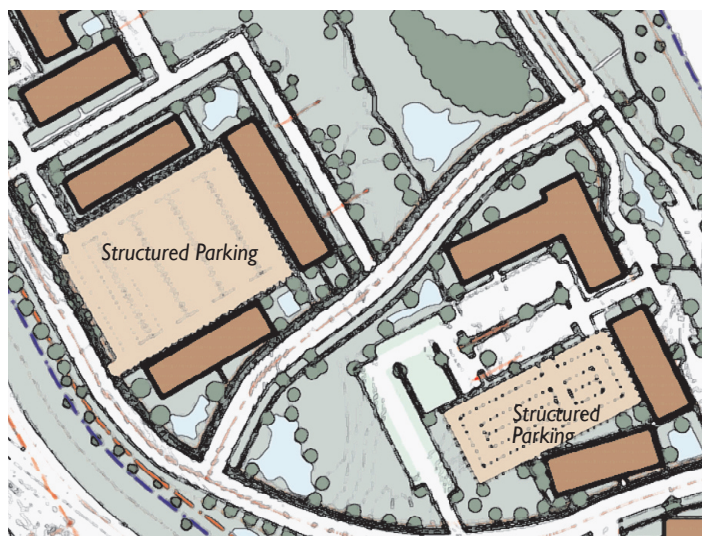
Diagram 9: Parking Fields



Parking fields are areas of pervious parking surfaces that incorporate stormwater bioretention in median areas. Bioretention consists of bioswales and filter strips.

The use of porous pavement is appropriate for areas that carry traffic at slower speeds and parking. Optimal areas for utilization of parking fields are secondary parking areas; i.e. areas furthest away from the building. Pervious or porous paving surfaces can be used in parking stall areas and/or travel lanes.

Diagram 10: Structured Parking



As Diagram 3a and 3b on page 16 demonstrate, structured parking will be necessary in order to conserve natural areas of the site. Structured parking may take the form of basement parking, underground structures, or above ground structures. Multi-storied structures will be required to follow the building height perimeters as detailed on page 33.

Structures are encouraged to utilize existing topography to minimize their impact. Green roofs minimize the visual impact as well as provide for run-off absorption.

Structures should be located between buildings, not front onto main roadways, and orient away from conservation areas. Landscaping should be used to soften the look of these structures and minimize their aesthetic impact.



BUILDING LAYOUT AND PLACEMENT CONCEPTS

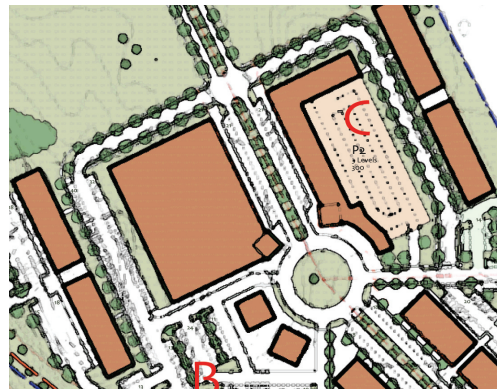
Conservation commercial and mixed-use development include mixed-use commercial and office uses designed to minimize the negative impact to native species, hydrology, and water quality. Buildings should be sited oriented to the street with parking placed in secondary or rear areas. Building forms broken into engaging configurations (such as creating courtyards and plazas) breaks down the mass of the building.

Diagram 10: Commercial Mixed-use



Buildings are oriented toward the street to create pedestrian scale spaces.

Diagram 11: Commercial Mixed-use



Buildings are oriented around a public plaza and broken up into arrangements based on use.

Diagram 12: Office Existing and New Construction

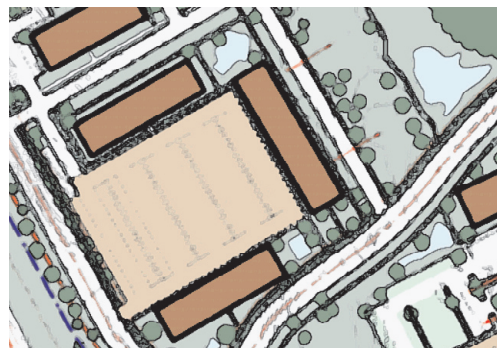


The location of new construction adjacent to historic buildings should occur based on existing design precedents. The Eschweiler buildings are laid out in a formal manner, utilizing right angles. Buildings are located based on height priority with the largest building as the focal point. The County Parks building formally addresses Watertown Plank Road. New adjacent buildings should mimic these relationships to the street and other buildings in order to allow the historic buildings to remain a prominent feature on the landscape.

New construction can contribute to these pre-existing arrangements. A formal green can be created by placing a building and roadways to complete the arrangement already established at the center of the Eschweiler buildings.

Massing mimicking that of the existing buildings while allowing for larger, modern floor plates will result in buildings that accommodate tenant needs while allowing the historic buildings to remain the predominate feature of the site.

Diagram 13: Office New Construction



New construction is shown wrapping around structured parking. Vistas to conservation zones are maintained. Building placement allows for optimal use of daylighting and easy access to roadways.

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NETWORK CONCEPTS



ECO PARK

In urban environments, humans have been largely separated from nature. Too often, people have no understanding for, or relationship with, nature; consequently they never truly experience the native landscapes that once flourished in their area. One way of bringing back that connection will be the restoration of native landscapes indigenous to Milwaukee County on a portion of the EDZ site and on the adjacent park site. A tremendous diversity of environmental conditions could be restored in this area, from deep water to dry uplands, and would make this a place unlike any other in the Milwaukee area.



Fig. NC-1: Boardwalk through a Eco Park, Coffee Creek Center, Chesterton, Indiana provides an opportunity for hiking, biking, and walking routes.



Fig. NC-2: An Eco Park provides access to natural species.



Fig. NC-4: Dune and swale naturalized area, Chicago, Illinois.



Fig. NC-3: Nippersink, McHenry County, Illinois.



Fig. NC-5: Boardwalk through Eco Park, Coffee Creek Center, Chesterton, Indiana.